Erratum
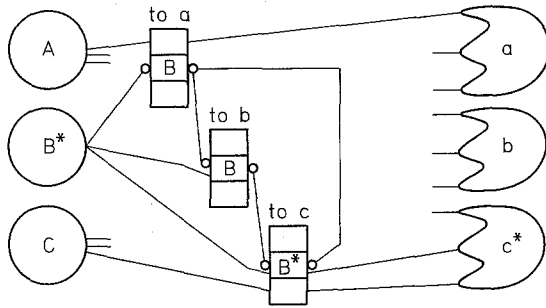
Dynamic Connections in Neural Networks

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Inter-unit

	One-end	Dual	Block	—
Idle	Low	High / Block	Blocked	
Low	High / Block	High / Block	Blocked	Idle
High	(Low)		×	Low
Blocked		×		Idle

End-unit

	Start	From inter	—
Idle	Low	Low	
Low	High	High	Idle
High		(Low)	Low

**Fig. 4.** State and output tables for dynamic connections

On p. 28, second column, the second formula should be $v\leftarrow$ if $p > 0$.... On p. 30, next to last sentence in the last full paragraph, the final "B" should be "not B". On p. 33, the formula in the first column should read

$$\bar{P} = (1 - F)^{B^K}.$$

On p. 35, the formula $v\leftarrow 2p$ should be $v\leftarrow 0.2p$. Also on p. 36 there is a long formula. The first bracket after the equals is empty. It should be

$$\binom{d}{k}$$

which is read "d choose k" and is the number of different combinations of k choices from a total of d alternatives.
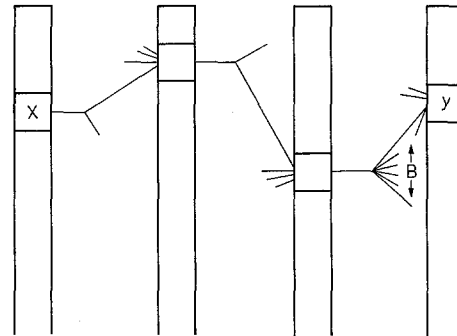
$$\bar{P} = (1 - F)^{B^K}$$

$\bar{P}$ = Probability that there is *no* link from X to y
N = Number of Units in a "Layer"
B = Number of Randomly Outgoing Branches/Unit $\approx \sqrt{N}$
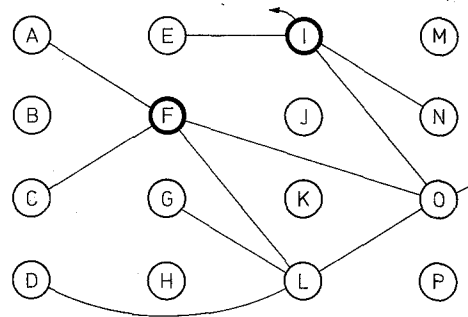F = B/N (Branching Factor)
K = Number of Intermediate Levels (2 in diagram above)

$\bar{P}$ for $B = 1000$; different numbers of levels and units

$K =$ \ $N =$	10^6	10^7	10^8
0	0.999	0.9999	0.99999
1	0.367	0.905	0.989
2	10^{-440}	10^{-44}	10^{-5}

Fig. 7. Making a connection

Random networks: N nodes each connected to $\sqrt{N}$ others

Assume $v = 0.2*$ potential; decay is 2

	F	I	G	L	O	A	N	...
$T = 0$								
1	10	10	0	0	0	0	0	0
2	10	10	0	2	4	2	2	
3	10	10	0	2.8	6	2	2	
4	10	10	1	4	8.6	2	2	
5	10	10	1	6.3	10	2	2	

Fig. 8. Random chunking network